

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 99.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-027666**Date Inspected:** 30-May-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1330**Contractor:** F & M Fabricators**Location:** jobsite**CWI Name:** Mark Nelson**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** SAS project**Summary of Items Observed:**

This Quality Assurance (QA) Inspector, Craig Hager was on site between the times noted above. This QA Inspector was on site to randomly observe the fabrication being performed and to release material as requested.

This Quality Assurance (QA) Inspector, Craig Hager observed what appeared to be several issues this date ranging from welding, galvanizing repair and the gluing of PTFE pads. See below for the observations and further details.

This QA Inspector randomly observed F & M welding personnel Manuel Ramirez using the Flux Cored Arc Welding (FCAW) process on galvanized metal to fill open holes in the various piping and tubing used to fabricate the bike path hand rails. This QA Inspector observed the holes were approximately 1/4-inch in diameter and the weld joint did not include backing and the configuration of the material did not permit access for back gouging. The weld joint did not appear to comply with a prequalified weld joint detail in AWS D1.1-2002. This QA Inspector observed the welding was being performed prior to the removal of the hot dipped galvanizing material. This QA Inspector spoke with F & M representative Mark Nelson, requesting a Welding Procedure Specification (WPS) for the welding being performed and was informed that one was not available. This QA Inspector was also informed the welding personnel qualification documents had not been made available to the Caltrans Engineer, prior to the start of this welding. This QA Inspector informed Structural Material Representative Nicolai Hvass of the issues noted above and was informed to issue an Incident Report documenting the observations. See photos below of galvanizing drain holes in the tops of rails both prior to welding and after welding. This QA Inspector observed only approximately 2-3 railings had been welded this date.

This QA Inspector observed several cans of a spray type coating, made for galvanizing repair, around the shop and

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was informed by F & M Fabricator representative Mark Nelson he intended to use this material to repair the galvanized surfaces disturbed by the welding process. This QA Inspector informed F & M Fabricator representative Mark Nelson the use of a spray coating was not approved by Caltrans and suggested he check the Caltrans website for an approved product. This QA Inspector observed as F & M Fabricator representative Mark Nelson went to the Caltrans website for a list of the approved products. Mr. Nelson implied he would acquire one of the prequalified coatings for galvanizing repair. This QA Inspector did not observe personnel using the spray can material this date.

This QA Inspector observed an F & M Fabricator employee gluing on several of the PTFE pads onto the galvanized metal surfaces using a glue not specified on the approved drawing. This QA Inspector observed note #5, in the general notes on approved drawing SKY-179-A-1, Revision-1 stated the following; "PTFE shall be bonded to uncoated steel surfaces." and "Loctite 770 primer or EQ. shall be applied to etched bond-side of the PTFE. Loctite 401 bonding agent or EQ. shall be applied onto the mating steel surface.". F & M Fabricator representative Mark Nelson informed this QA Inspector he was using glue "Bondit B-45 TH" specified on Caltrans Plans drawing titled Skyway Cleanup Items, Modified bike Path railing Details No.1, sheet # 1164525R1. This QA Inspector reviewed the drawing and observed it was a Caltrans Plan drawing for a different Contract Change Order (CCO) (#219). This QA Inspector implied the approved shop drawings supersede the plan drawings and suggested a Request For Information (RFI) could be submitted regarding cluing the PTFE over the galvanized (coated) metal and could provide documentation showing the glue he was using was equivalent to the glue specified.

This QA Inspector was informed by F & M Fabricator representative Mark Nelson the paint from the torques head bolts and the modifications on approved shop drawing SKY-179-A-1, Revision-1 had been completed and were pending release to R & B Protective Coatings for blasting. This QA Inspector was provided a Certificate Of Compliance (COC) and shipper for the material. This QA Inspector reviewed the documents and observed they appeared to comply with the contract requirements. This QA Inspector performed a random visual verification of the material and observed the work performed appeared to comply with the drawing noted above. The material was released using a Green Tag, see Component Material Inspection Report (TL-6011) this date for further details.

Summary of Conversations:

This QA Inspector had general conversations with American Bridge/Fluor (ABF) personnel, QC personnel and Caltrans personnel during the shift. Except as described above there were no notable conversations.

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Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy (510) 385-5910, who represents the Office of Structural Materials for your project.

Inspected By: Hager,Craig

Quality Assurance Inspector

Reviewed By: Foerder,Mike

QA Reviewer